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THE
Tonnelett Vindicated;
OR, SOME
ANIMADVERSIONS
UPON THE
PRINCIPLES and PRACTICE
SET FORTH

- IN TWO TRACTS, Intitled,
1. *Traité des Eaux Minerales de Spa,*
AND
 2. *Recueil d'Observations sur les Effets des
Eaux Minerales de Spa, de l' An. 1764,*
Avec des Remarques sur le Systeme de
M. C. LUCAS, &c.

Par JEAN PHILLIPES DE LIMBOURG,
Docteur en Medicine, &c. &c.

IN WHICH,

The Politeness, Modesty, Candor, Ingenuity, Sense,
Knowledge and Judgement of the Author, are
shewn in the TRUE LIGHT.

In a LETTER to M. De VIVIGNIS, M. D.
Counsellor and Physician to His most Reverend and Serene
Highness the BISHOP and PRINCE of LIEGE, and
Physician to the Hospital of St. ABRAHAM, in that City.

By C. L U C A S,

Of the Universities of RHEIMS, LEYDEN and DUBLIN,
Doctor of Physic, Member of the Royal College of Phy-
sicians of LONDON, and One of the Representatives of
the City of DUBLIN in PARLEMENT.

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T H E

Tonnelett Vindicated ;

O R, S O M E

ANIMADVERSIONS, &c.

IT is with no small Concern, that I find myself very long in your Debt, without having been able to acknowledge properly, the Honor and the Obligations conferred upon me, by a Person of your distinguished Rank and Character in the literary World in general, in the Republic of Physic in particular.

Your first Favor came to my Hands at *Bath*, where I was thrown into a most violent Fit of the Gout, by the Use of those celebrated Waters, by which, my Limbs greatly suffered, while my Bowels were effectually relieved from Acidity in the first Passages, from Cholics and Spasms, of the erratic gouty Kind.

Before I recovered the Use of my Limbs tolerably, I suffered a most insupportable Loss in my Family, which rendered me long incapable of giving Attention to Business of any Kind. And it is more than probable, that nothing less than a severe Sense of the Duties of my Political Vocation, could so

soon have roused me from the Lethargy of Grief in which I was thus overwhelmed.

From these Considerations, an Heart less benevolent than yours, and less sensible of the Grievs of others, will readily find an Apology for my seeming Neglect.

If I were so base, as to be void of Gratitude, Self-love would necessarily attach me to that noble, generous Spirit, who dares to support Truth, and vindicate the Character of an innocent Stranger, in his Absence, when self-interested, little Pedlars in Physic, unable by just Means to acquire any solid Reputation, attempted by Falshood and low Craft, to blast his Credit, and to found their Fame upon the Ruins of that of another.

This is a Piece of Generosity, which every good Man, however disinterested, must approve. And, however short of that Character I may fall, I am too interested to be insensible of the Obligation, which rises in Proportion to the Prowess of the Champion, who honors me with defending my Cause.

Yet, Sir, while I thus gratefully acknowledge my Obligations to your Generosity and Skill, I cannot help being concerned at the Trouble you have been at, with an Antagonist so much below your Notice, as well as mine.

The Mind conscious of Rectitude or good Intentions, can feel no Calumny, no Reproach. Fools and Knaves may court the Smiles of the Injudicious. Sound Doctrine will stand every Test. He who advances unsound, should bear, should expect Correction. With me, asserting a Truth and retracting an advanced Error or a Falshood, are one and the same Thing. The Cause of Truth requires such Candor. If I were wrong, I should thank even my back-biting Antagonist, had he the Sense and Judgement to set me to Rights. But, as he has fully acquitted himself of all Imputations of Candor

dor as well as Knowledge, and of every good or generous Intention, I should certainly think him below my Notice, did you not first take up the Gauntlet for me. And that I may not appear altogether unworthy of so generous a Second, I shall give you some Sketches of my Sentiments on this last Quack bill of M. Limbourg, I mean his *Recueil D' Observations des Effets des Eaux Minerales de Spa, De l'an 1764; Avec des Remarques sur le Systeme de Mr. C. Lucas sur le memes Eaux, &c.* By which, you will also find, that that Gentleman challenges me to make some few Animadversions on his boasted *Traité des Eaux Minerales de Spa.*

Before I proceed to examine this futile Work, give me Leave, by the way, to inform you, that this is not the onely Writer of this Class, who has answered the Calls of Hunger, at my Expence. And it is probably the Knowledge of the Success of other like Authors, that has prompted this Gentleman to make this unprovoked and unfair Attempt upon a Man, who never gave him any other Offence, than putting him in a Method of correcting some of the grosser Errors of his first *pompous Treatise* on these Waters, which he recalled from the Press at *Leyden* for the Purpose.

See the *ESSAY* on Waters, P. III, § 146, where this is gently touched upon, to shew it was not the Man but his Errors, I exposed, with due Regard to Truth and the Public.

There are political Writers here, who have long got a Livelihood by abusing me and my Writings, without being able to make out a single just Exception. By this, some have gained Pensions and the first Employments in the State.

M. Limbourg is not the first of his own Fraternity and Class, that has thought fit to abuse me; though, I thank God, I have always had all those of yours, on my Side: Some, whom I have taught all they can pretend to know of Chemical Experiments, willing

willing to appear *wiser than their Teacher*, have thought fit to set themselves in Opposition to my Doctrine of simple and medicated Waters; with what Success, you will be able to see in my FIRST and SECOND LETTERS to Dr. *Rutty*, and my REMARKS on the Works of Dr. *Sutherland*, which I send you with this.

It seems to be the later Gentleman's Example, that M. *Limbourg* chooses to follow. Let us see with what Success.

I find our present learned and polite Antagonist seems offended at my Treatment of the Generality of the Physical Writers at Spa, and other water-drinking Places, before my Time: But this can only be from his finding that the *Cap*, if it had not fitted him at first, is, by his Practice and Writing, rendered every Day more adapted to *his Head*.

This, the long Catalogue of his *three penny, four-penny, and five-penny* Works, on the back Page of the List of the Strangers at Spa, sufficiently evinces, even without the last Mountebank Trick, his *Recueil des Effets*, was shewn. Here, the *nimble Doctor* shews how cleverly and cleanly he can leap through a dozen of Hoops, without touching one of them: For, it must be clear to you, he steers as far from his intended and promised Port, as any of his tumbling Tribe of Practicioners leaped clear through their Hoops.

From the pompous Titule of this last great Work, the World is to understand, *that the learned and long experienced Practitioner and Writer of Practical Observations of the Effects of the Mineral Waters at Spa*, is to combat and overturn the whole System of Waters of Mr. C. *Lucas*, whom, upon other Occasions, the great Doctor *Limbourg* has thought fit to stile, a *turbulent*, and proscribed *ignorant Fellow*, a *Wretch*, with other like Phrases, perfectly worthy of their Author.

To

To this, you see, a proper Answer in one of the Prefaces to some Part of the ESSAY on Waters. The Doctor's treating me thus, is further Proof of the Class, in which he places himself, and out of which, he can now never hope to emerge: Since the Tenor of this, if not of all his other Writings, shews him to be a mere physical *Craftsman*, put out of Humor for want of Trade, and from the Apprehensions of losing what he has; a blind Partisan, puffing himself off every Year by a new Quack-bill, or a new Edition of an old; complaining of People's drinking the Waters, without a Physical Guide on the Spot; and above all, dreading the dangerous Doctrine, of the Waters of *Spa's* bearing Carriage. *The Miller, in dread of losing Grist, may be allowed to grumble.* But, let us see how this *Goliath* overturns this dreadful, this dreaded System of Mr. C. Lucas.

To make his own Weight and Importance appear the greater, the Doctor sets out with shewing, what all the World was sensible of before, that *Observation is the Foundation of Physic*; with shewing the *Necessity of Observations in the Use of Mineral Waters*; p. 3, 4. But because he set out, in his first Writing, with some Attempts upon analytical Experiments, he squints at *some of the Uses of Analysing Waters*, p. 4; taking Care however to shew, *how defective Analysis is*, p. 5, 6; well knowing his own Fort, and that some have succeeded better in this Branch than he.

However, § 5, he is forced to couple Observation and Analysis together, but without shewing, that he who is incapable of Analysing, can never make proper Observations. And without confessing, that sound Theory must lay the Foundation for rational Practice and just Observation, he finds it necessary to couple Analysis or Theory and Practice together.

And, p. 7, he takes Care to inform his Readers, that *he proceeded upon this Plan, collecting Histories and making*

making Observations of Cases. Here the Sign is hung out! *Behold the only true Punchinello!*

In this Paragraph however, the Doctor pathetically complains of the unsurmountable Obstacles to his keeping a regular Journal of Observations; the chief of which is, *that the Drinkers do not apply regularly for his Advice*; which he would have the People believe, a Detriment to themselves, and the Public, as well as to him.

He tells us, p. 9, that *he pursued this Method in his Treatise on the Waters*, a Work which he promises to enlarge and improve, in Time; contenting the Reader for the present, with this Collection of Observations—and this Overthrow of Mr. C. Lucas's whole System of Waters.

He then points out the Order of his Work. He proposes to reduce his Observations to the Medical Order; that is, says he, *to the Order of the Disease in which the Waters were used, and not to the Chemical Order, or according to the different Qualities of the Waters of each Source*; p. 10.—Here, he favors us with one of his most curious and accurate Observations; to wit, *that notwithstanding the physical Difference of the Springs, they produce many Effects in Common, and are found useful in the very same Disorders.* Compare this to the extreme Differences he makes between these Springs in his *Traité*.

"This," says he, *Recueil* § 30, "serves to explain why the Waters of one Spring are often found useful in certain Disorders, in which, the Water of another Spring has been found equally good, or perhaps better." And in the following Paragraph, he seems to make it indifferent which Water is drank by the Patient, since they all possess certain Properties in Common, and one Spring may serve to perfect the Cure, begun by another.

But, in the Sequel, you will observe how flatly the Gentleman contradicts himself, in all this, as well as in his *Traité*. His Memory seems to fail the
Doctor,

Doctor, where he wants it most; for, he asserts, that the *Tonnelet* is more likely to *Give*, than to *Cure*, a Disorder.

After taking great Pains to embarrass in the Choice of the Springs, as much as possible, throughout his *Traité*, and in his *Recueil*, p. 11, he lays himself out for shewing the great Importance of long Observation in the Practice of the Spa Waters; having already told you, that he has practised there no less than Eighteen Years. But his *Traité* shews you, that he required but a very few Years to qualify him to Analyse and to make and publish Practical Observations on the Uses of the Spa Waters. But, this will not be wondered at, when the Doctor proves himself of the *Asclepiad* Family, descended from, or allied to, a whole Race of *Spa Physicians*, or in the Phrase of *the low Craft*, the *Seventh Son of a Seventh Son*, an *unborn Doctor*.

And even while he confesses the Waters in general so much alike, as hardly to be distinguished in *Quantities* or *Effects*; he exclaims against the Fashion which sometimes prevales, and gives Preference to one Spring above the Rest. The Cause of this Exclamation, he flurs over very Artfully with some Stories of *a Cock and a Bull*, the ancient Notions of the *Tonnelet*, p. 12, 13; but the Truth comes out, p. 14. For there, he tells us, that Doctor Lucas, without any Regard to Practice, *as constant, as ancient; regardless of preceding Analyses, and even in down-right Contempt of other Physicians and their Works, has revived the Notions of one Trevisius, and brought into Vogue the rejected Tonnelet*, though without the District of Spa, and though vilified and decryed by the famous Doctor Limbourg and his Predecessors and Contemporaries. Ay, there is the Rub that retards the Movements of this trading Practitioner, and hurts his Commerce!—Galled Jades will wince. And you will find, the long pompous Parade of Fourteen or Fiveteen preceding Pages was but preparatory to this

this Exclamation, with some view to puffing the Author *En passant*.

He complains further p. 15. *that regardless of the extreme Difference of Disorders, this proscribed Doctor Lucas uniformly prescribed the Tonnelet Water, to Numbers of English Patients in the Year 1752; and though with very uncertain Success, and with the other Waters; yet this, was partly with Doctor Limbourg's Advice or Consent, as he himself declares; but with this remarkable Exposition, in Cases where the Use of the Water might be attended with some Success, especially where Prejudice raises that Confidence, which never fails of seconding the Effect of the Medicine.* Thus the Craft will now and then appear! For, the Doctor confesses, that any of his Patients, prejudiced in Favor of the Tonnelet Water, however essentially different it may be from the rest, may take it, that his Practice may be seconded by the Force of Prejudice! Is it thus the learned Gentleman shews himself clear of the hated Character, given certain Spa Physicians, which seems so much to displease him? Who does not here see the Cause?

But, he gives us to understand, §. 19. *that it was not the authority of Doctor Lucas alone, that brought this Water into Repute, but that some particular Circumstances concurred to raise a Kind of Schism in the Water-practice at Spa.* These favorable Circumstances, as we are told, were these; *some Persons Drank of these Waters, without Effect, or were hurt by them; strange Circumstances to concur in bringing the Waters into Vogue!* But, in the Sequel, he is forced to confess, that these Waters had not justice done them: For, adds he, *the greater Number of the Drinkers took some Druggs with the Water, or had previously drank of some other Spring, and thereby received some Benefit, which they, forgetting the Effects of the Druggs and the other Waters, attributed solely to the Tonnelet, all the real or imaginary Benefit received, and therefore sung the Praises of this Fountane, which the Doctor solicitously endeavors*

endeavors to prove, rather unwholesome and hurtful, than beneficial.

By the Tenor of the Doctor's own Words, by his Exclamation, p. 8. in particular, it appears, though contrary to his Intention, that the Physicians of England, Ireland, and other Countries, remote from Spa, have better Opportunities of making complete Observations on the Effects of the Water, than he can boast upon the Spot: The distant Practitioners send their Patients to Spa and other Waters, with general Directions for their Conduct. These Patients keep Diaries and hold a regular Correspondence with their Physicians; so that they have no occasion to consult even the *great Doctor Limbourg*, as he justly complains, except in some accidental acute Cases. Upon their return Home, these Patients give a full Account of the good or bad Success of their Course, to their Family Physicians, who record such Cases as they judge worth Observation. One essential part of these like medical Observations, the Physicians in ordinary alone are qualified to make; that is, the State of the Patients, some-time after their quitting Spa: For, the Doctor should know, in Order to help to qualify him to make and record Physical Observations, that Patients do not always continue in the State, in which they appear to him, while under the immediate Influence of the Spa Waters. For, some gain, and others lose Ground, in some time after quitting the Waters.

But, we must see how this gentleman proves himself divested of that *Factionous Partisan* Spirit, which he inveighs at, p. 16. and how well he is qualified to make and record practical Observations, by the Specimens, he gives us in this his last monthly Performance.

What this learned Gentleman is pleased to charge grossly upon Doctor Lucas, §. 30, *palpable partiality to the Tonnelet*, at the Expence of almost all the other Springs, falls heavily against *our learned Author*, who

hardly allows the Tonnelet any one good Quality, though Doctor Lucas experimentally shews where this deserves the preference to other Springs, and where and why these demand the Preference to this.

But Doctor Limbourg's *gross Partiality*, and his suffering himself to be *possessed* with the *Spirit of Party*, appear in no Instance stronger, than where he would rob this poor Spring of all it's good Effects, and would ascribe them solely to Druggs or to other Waters. Now, let us look over this Doctor's List of Observations of Cures, performed by his favorite Springs, and we shall find, he never kept any one Patient to any one Spring, and that he could trust none, without the use of Druggs, though he, as prudently as craftily, chooses to concele the Medicines he gave: For example;

OBSERVATION the I. Set down like all the rest, without giving the Age, Stature, Complexion, Temperament, Habit of Body or just Description or History of the Disorder.—*She first got Benefit by the Use of the Sauveniere and Pouhon, afterwards, she Drank of the Pouhon and Geronstere, seconding their Operation by a Tonic Mixture; some Secret, or the Doctor would have given us the Prescription.*

OBSERVATION II. *He drank First of the Pouhon and Geronstere; afterwards, of the Tonnelet and Geronstere; upon which alteration, the Doctor is forced to confess, for Truth will out, sometimes, that he passed more Urine; yet this, he is pleased to attribute to the Increase of Exercise. But, be that as it may, the Doctor's Experience and long Observation taught him to rely on none of the Waters, by itself, more than on the Tonnelet, without the Mixture of Two or more Springs, with some favorite Druggs; for, he gave this Patient his Diuretic Pills. Another Secret; for, we are not told the Composition.*

OBSERVATION III. *He began with the Sauveniere, from whence, he afterwards went to the Pouhon and the Geronstere, which he continued with good Effect, taking*

taking from Time to Time, some tonic and aperitive Druggs, their Names and Forms, like the Rest, kept Secret, for many wise Reasons and Purposes, though contrary to the Rules of all candid Practical Observers.

OBSERVATION IV. *He drank of the Pouhon for Six Weeks, then of the Geronstere for Fifteen Days; interposing sometimes certain Medicines fit to dissolve and promote the Passage of the Bile, with great Satisfaction. These powerful Remedies are also Secrets, in the Hands of the Doctor, as none may with safety play with the Lion, but the Keeper.*

OBSERVATION V. *I made him drink two Glasses of the Pouhon, and then from Four to Eight of the Sauveniere, then Four Glasses of the Pouhon, and as much of the Geronstere, for a certain Time.*—A Question naturally arises here, which of the Waters wrought the Cure? for, we find no Drugg given except *Aken Waters*, as a Preparatory.

OBSERVATION VI. *He drank of the Pouhon, First, then of the Geronstere, interposing happily the Use of certain Aperitive Pills and Antispasmodics, not yet to be made known.*

OBSERVATION VII. *By the Use of the Pouhon, the Sauveniere and the Geronstere, with the addition of certain Aperitive and Tonic Pills, as yet known, onely to the Doctor, he was seen instantly to grow better, &c. But, the Author as judiciously, as candidly and impartially, observes, that very sad Consequences attended this poor Patient's Drinking but Twice of the Poisonous Tonnelet Water, though, as must be supposed, with the Doctor's Advice or Consent, as he elsewhere expresses it: For, the First Time he Drank, he was seized with an excessive Haemorrhoidal Flux, and the next attempt had like to prove fatal to the contrary extreme, though made several Days after the First; For, the Water, which in the one Instance, layed open the Haemorrhoidal Venes, in the other, flew to the Head, and swelled it very considerably;*

siderably ; accidents which happened not, during his Course of the Sauveniere and Geronstere, whose good Effects are supported down to the present Age.—Sure this Remark will be judged quite worthy of it's Unprejudiced, Impartial Author ! And yet, after all, does not the Doctor leave it quite doubtful, which of the given Waters wrought the wonderful Cure ? Or what Share of it is to be given to the Tonic and Aperitive, secret Pills ? If these be not allowed their Share, what part is to be given the Author ?

OBSERVATION VIII. *A Lady who drank the English Baths,* (no Matter which to so accurate an Observer) *then, those of Aken, drank First at Spa, of the Sauveniere from Four to Eight Glasses ; afterwards, Two of the Pouhon and Six of the Geronstere, which, with the Use of certain Tonics,* (which must as yet remane Secret) *in concert with the Waters, perfectly re-established her Health.* Which Water and what Tonic wrought this admirable Cure ? Let the Doctor Answer ; for, indeed, I cannot.

OBSERVATION IX.—*He drank First of the Pouhon, with bad Success, but afterwards of the Geronstere with good ; necessarily interposing some appropriate Remedies for some Fits of the Asthma and Swelling of the Stomach.* Encouraged by this remarkable Success, we are told, *the Patient has come again this Year to Spa, relieved of all Complaints but the Swelling of the Stomach, the chief.* But of this, the accurate Observer tells us, *his happy Patient hopes to be relieved by these Waters, which he again takes with Success.* Here the Doctor shews more Accuracy and Judgement than ordinary : If one of his Waters failed at First, both answer now. And this Case may serve hashed up or ragou'd next Year ; especially, as the Medicines given are not so much as hinted at.

OBSERVATION X. Is the Case of a weak, tender Nephritic, subject to Spasms, whom the Doctor, of his matchless Judgement, put upon a course of the Pouhon Water First, then of the Sauveniere ; though each brought

brought on a Cholic and Pains in the Kidnies. Some Days after quitting the Waters, he passed some Fragments of Stones, with some Drops of Blood. The *Doctor* having assuaged the poor Patient's Pains, by means best known to the Author, made him resume his Course of the Sauveniere; by which, he passed a Stone like a small Cherry, with a large Foot-stalk. Let who will believe, and follow this rare Practice, I shall not.

OBSERVATION. XI. Is another pretty singular Case, as singularly treated. The Patient's Disorders, we are told, were no less than the *Stone, Gravel and Fat*; of all which he got greatly relieved at different Seasons, by the Use of the Sauveniere Water, and that, as we are assured, *without Pain, without any kind of evil Accident; except* such trifles, as *an attack of a Vertigo, attended with such slight Circumstances, as an intermitting Pulse, and cold Sweats*. But these, though commonly found Symptoms of Death in the Patients of the generality of Physicians; here, served but to prove our *Doctor's* superior Skill; for, though these deadly Symptoms came on in the Beginning of the Course, the *Observer* assures us, *be readily cured them*, with one of his *Secret Specifics*, called a *Carminative and Antispasmodic Mixture*. The Purchase of such a Secret must be reserved for your Prince, if the *Grand Monarch* does not envy him the Glory.

Our judicious *Observer* reserves for his Twelvth OBSERVATION, the Case of an Ulcer in the Kidney. The Waters and the Remedies were various here. *He was First made to Drink of the Pouhon and the Sauveniere, but chiefly the later, with certain Aperitive Pills. After these had brought off a quantity of Matter and other nameless Stuffs, he took certain Tonic Pills, with Four or Five Glasses of the Pouhon, and Three of the Geronstere*. Here, you see, the Sauveniere would not Answer. It was therefore changed for the Pouhon, and the Geronstere. But, though it must be presumed, the *Doctor's* Secret Medicines, his Aperitive and his Tonic Pills were not altogether Useless; he modestly gives

gives the Credit to the Waters; for, adds he, *after having used these Waters*, (no Matter which, and not one Word of the Pills) *for about Three Months, the Patient got remarkable Ease.* This needs no further Commentary.

Now which are we most to admire, in the Works of this *Great and Learned Doctor*, his *Analysis*, his *Pathology*, his *Therapeuties*, his *Theory* or his *Practice*, or his *Candour*, *Ingenuity*, *Accuracy*, *Precision* and *Fidelity*, in making and recording practical Observations?—Had he seen these, under any other than his own *Great Name*, could he One Moment hesitate at pronouncing them, the *Vociferous*, but *Incoherent Brawlings* of some *Ignorant, Vane-boasting Mountebank*? So many mere *Quack-bills*?—He will not, I presume, now that he is detected, be hardy enough to answer in the Negative.

The poor abused *Tonnelet*, which he seems to consider rather as a *Poison* than a *Medicine*, he says, was brought into Vogue, *not by the Authority of Doctor Lucas, but by the favorable Circumstances of having been taken with some Medicines, or with or after some efficacious and wholesome Water.*—Will our Author be so kind, so just as to tell, which of the other highly praised Springs he depends upon, by itself, or even without some Shop Medicines? Is it not incumbent on a *Practical Writer* to shew that he is well versed in the Use of his *Instruments*? A Carpenter would blush at any Man's seeing him take up an *Axe*, an *Adze*, a *Chisel* and *Saw*, or any Two of them, where one alone should do the Work, or could do it effectually or properly. Is our *Accurate Observer*, who sets up for teaching all the World, the Uses of the great Instruments of Physic at Spa, so ignorant of them, that he is forced to put Two, Three or more, always to do the Work of One? And has he found those powerful Waters so Insufficient for their Medicinal Purposes, that he can never trust them alone? If he will administer some of his many unnamed,
perhaps

perhaps nameless Druggs, with Pump or River Water, if he knows any Thing of the *Materia Medica* and the Animal Oeconomy, he must confess, that some certain Effects must be produced. Will our *learned Doctor* ascribe such Effects to the simple Water, or to the Drugg? Either, I suppose, will answer his Purpose; it will, like other *Quack Bills*, catch some of the Vulgar, great or small, and for no better Purpose has he Written, except that of gleaning some Scraps of Reputation upon a Field which was cultivated by other Hands.

In § 20, he makes two or three Charges against the hateful, the hated Doctor Lucas; such as *his making the Tonnelet the Chief, if not the Sole Subject of his Panegyric; making the essential Principle of the Geronster, the Product of Putrefaction, and ascribing to the Pouhon, certain destructive Qualities.* These however, he leaves for further Discussion else where, and there, I shall venture to take him up again.

It were to be wished, he had spared Doctor Lucas, as well as his Country, the clumsy Compliments, with which he cloy both, § 21. Let the Country make what return it will, Doctor Lucas can be no more moved by the Praises, than by the Censures of Doctor *Limbourg*; as he looks upon both as indiscriminately given or alike undeserved. The little imperfect Chemical Sketch, relating to the Acid of Sulphur, alluded to, and so highly applauded, by our Author, was one of the first and most imperfect Sal-
lies of Mr. Lucas's Juvenile Studies. But, our Author thinks, he runs no Risque in lavishing Praise upon this premature Performance, as he presumes it bears but little or no Relation to Spa or it's Waters. Aye; here is the Point, in which our Author cannot bear any Contradiction, or the Suspicion of a Rival, however distant: For, after a Profusion of Praise, for what he knows as little of as he does of Spa Water; He asks, *who is notwithstanding, to regard him as the principle Chemist? For the Reformer of Medicine? Or*

for such an absolute Critic, as he sets up for? And above all, must we subscribe to all his Decisions on a Subject so little known to him, slightly touched upon in one single Season? Can any one say, that Doctor Lucas has any where arrogated to himself such extravagant Superiority? Or where does he demand any degree of implicit Faith? Are not the Works now threatned to be overturned by this great Author, composed of Historical Facts, demonstrative Experiments, with natural and fair Inferences and Conclusions?

If here and there, he exposes the forward Impostor, the Knave or the Fool, how is Doctor *Limbourg*, so different, so shining a Character, to think himself struck at?

His Compliments to the English Nation, he seems likewise to over-turn with the same Hand that gave them. "The English," he says "may be prejudiced in favor of their vane Countryman, who, *setting himself up above all that have entered on the same career, with him, and whom he vilifies in an haughty Tone, which is but too common with him; this Nation, says he, though it does not like to be deceived, may well adopt these false Notions, or take them upon Trust.*"

Does not this Insinuation shew, that Doctor *Limbourg* knows as little of the genius and temper of the English Nation, as he knows of their Countryman? Is there a People upon Earth, who so freely, so strictly scrutinise Matters, whether Sacred or Profane, Religious or Moral, Ecclesiastical or Civil, Physical or Political, and who so zealously investigate Truths, as the English?—I challenge any Man to shew where particular Affections or Prejudices were able to warp them from these just Purposes, which so clearly Characterise the People.

Spa has been more visited by the English, than by any other People. Some of it's Princes, Philosophers and Physicians see and drink of those Waters every Year. Most of these have taken with them Doctor Lucas's Essay, on Waters, and many with
the

the true English Genius and love of Truth, have repeted his Experiments and put the Work to other Tests, all which it has been found to stand, with all but Doctor *Limbourg* and a few designing or interested Men of his Character and Class.

That Doctor Lucas's Work is not perfect or faultless, he himself confesses. But, it will not be difficult to shew, that neither Doctor *Limbourg* nor any of the other Critics of his Class, has ever been able to point out a single Error in the great Number, which too apparently remane yet to be corrected in that Work.

After this, the Author comes to shew that the English are of all others the most interested in discovering the mistakes and errors of their Countryman, which he now undertakes to develope, p. 18.

In this contest however, he demands; but a *clear Stage and no Favor*. He would not be thought to *engage in a Literary War*: *He is too busy to go to all the particulars of Lucas's Errors at present; the Season advancing, which leaves him but little leif re*, in this part of the Book, though he complains of too much, in the beginning. And though he threatens no less in his Titule and else where, than the overturning of Lucas's whole System, *Des Remarques sur le Systeme de Mr. C. Lucas*, he now thinks better of it, and contents himself with pitching upon some *d'festive Parts of his Book, relative to the most important Points of the Subject, and making some Remarks thereupon, which will demonstrate, with how little Foundation he takes up on him such a Reformation*, p. 19.

In § 24, he is pleased to make it the principle point of Lucas's System, to give the *Tonnelet Water the preference to all the others*. See how fairly he represents a System, which comprehends the whole Chemistry of Waters, simple and medicated?—So, this *whole System* of Chémico, medical Hydrology is to stand or fall by a few foolish fond, perhaps, mistaken Notions of one Spring!

Well! let us see how this is to be done. It must be confessed, that preference is given the Tonnelet Spring to most others, in some Particulars, especially by the Test of the Senses, in the ESSAY on Waters, P. II. § 268, &c. But there, the Reasons are layed down, not one of which is, or perhaps can be, contradicted by Doctor Limbourg.

Now, though *this great Critic does not* so fully or fairly set forth Doctor Lucas's Reasons, as he might; I shall take them as the Critic is pleased to give them, in order to have the satisfaction of refuting him from his own Words.

He says, *that Lucas supposes the Tonnelet Water more charged with the subtil volatil, acid Spirit, than any of the Rest, and that principally from it's Sparkling, and other Analogous Effects; as, 1. by it's losing it's property of tinging Purple with Galls in less Time than that of the Pouhon. 2. In that being shaken in a Bottle half full, the Air rushes out with a greater Explosion, 3. In that being beaten, in a Corked Bottle, it throws out the Cork, or bursts the Bottle with a louder Explosion, or, if the Bottle be full, will run over like Champagne Wine; after which, the remaning Water becomes Spiritless and Effete, 4. In that, if set on the Fire, it is more quickly and sensibly affected, and throws the Air Bubbles some Inches higher, 5. in that under the exhausted receiver of an Air-pump, nearly the same Appearances as by Fire, are produced, more quickly and smartly in this than in the Pouhon.*

"Behold," says Doctor Limbourg, "his Proofs. But who does not see, that all these Phaenomena, as well as it's Smartness in Taste and Sparkling, which occasions the Comparison with Champagne, depend more upon the extreme Quantity of superabundant Air, than upon the Acid?" p. 20.

In the next following Paragraph, he enlarges on this Topic, ascribing the Error to the confounding the Effects of Air with those of Spirits.

I believe

I believe the Discovery of *sapid Air* is to be attributed solely to our Author. He, I am pretty sure, is the first who thought of *acid and smart-tasting Air*. In like Manner, I must presume, he is the first who ever thought, that simple Air could be a fit solvent for solid and ponderous Substances; the sole Cause of the sparkling of Waters or of Wines

He seems not to be ignorant, that Air is generated or separated from Bodies in the Operations of Solutions, Effervescences, Fermentation and Putrefaction. But, I must suppose, he is the very first who was absurd enough to think, it was pure simple Air, quite devoid of all Acidity or Spirituosity, that made it's Escape in these like Operations, or upon the Heating or otherwise Agitating these Mineral Waters, or the lighter sparkling Wines.

Is it known to Drawers and Tapsters, that all fermented Liquors suffer by pouring them from one Vessel into another? Does not *Champagne* grow vapid thus, when nothing but Air seems to escape? Yet does not the inflammable Spirit always fly off with this Air? The Sceptic may soon learn by Distillation.

Is not the *Tonnelet* and every other like Water rendered flat, vapid, effete and muddy, upon losing nothing perceptible to the Senses, but Air? Yet are we to believe that pure Air could be the sole Cause of Taste, Smell, Spirituosity or Acidity, and Transparency, which depends on Solution?

Why does any of these Waters thus decomposed, cease to act upon Iron? or, to shew a Contrast with Alcalies? Why do they grow insipid and muddy? Strike no Color with Galls? Shew no Color with Sirup of Violets, but green?—Why, upon the Addition of a small Quantity of the vitriolic Acid, are the Taste, Sparkling, Transparency, dissolving Power, and Contrast with Alcalies, together with it's different tinging Qualities with Galls and Violets restored, if the added Acid did not bear some

Ana-

Analogy to that which escaped insensibly with the Air?—Yet all these are Facts demonstrated throughout the *ESSAY* on Waters, but below *our accurate Critic's* Notice.

But, overlooking all this, *our Author* chooses rather to catch at a loose Expression, than to take the Sense along with him: For, though throughout the whole *ESSAY*, there is no Point of Doctrine more strongly insisted on, than that the subtil Mineral Spirit and elastic Air constantly accompany each other; though the seemingly void Space, in a Bottle filled with *Tonnelet* Water, be expressly sayed, *ESSAY*, P. II. § 272, to be occupied by the subtil Spirit and elastic Air, which the warmer Medium separates from the cold Water; though § 286, the *Air and Acid Spirit* are expressly sayed, always to go together, and though in § 270, recited by the Author, a Doubt be put, whether the escaping Bubbles be aerial or aetherial; though it appears from his own Recital above, from the *ESSAY*, that when the Air by any Means escapes, the Water is left spiritless and effete; yet the *candia Critic* chooses to separate these Ideas, and seize upon a loose Expression, as the likeliest to serve perverse Purposes: This is where the empty Space appearing in a newly filled and corked Bottle of this Water, is sayed not to arise from any Loss of *Substance*, as was imagined, that is as the Doctor must have understood it, from any Evaporation of the watery Element, but from the elastic Air beginning to escape from the Water; and this appears from the Context, to be looked upon as inseparable from the volatil Mineral Spirit. How fair, a Distortion of this Kind, so apparently repugnant to the Sense of the Author, may be, I submit to the Judgement of all sensible and unprejudiced Readers. This is one Way of overthrowing *Lucas's System*!

But, that Doctor *Limbourg* was of the same Opinion with *Lucas*, and ridiculed these now adopted Notions

Notions in another, when he wrote his *Traité*, appears by the Work, p. 76, 77. But whether the Author will correct this in his promised new Edition, or will return, *like the Dog to his Vomit*, Time will shew.

After this first Triumph, our Author proceeds to the next Attack, and unfortunately chooses to contradict one of the best stated and most demonstrative, simple Experiments in the *Essay*, P. II, § 274, 1, 2. § 275. Where the Effects of mixing Sirup of Violets with the Water, are set forth, as one of the Proofs of this Water's containing more of the volatil Mineral Spirit, than any of the rest.

'Till Doctor *Lucas* analysed these Waters, most of the Writers, and even the great *HOFFMAN*, denied these Waters' having a Right to the Titule of *Acidulæ*; asserting they were rather *Alcaline*, and resting for Proof on the Waters' turning Sirup of Violets, green.

Doctor *Lucas* was the first who fairly proved, by Numbers of convincing Experiments, that these Waters were all *subacid*, but the *Tonnelet* the most so.

His principal Proofs of the Abundance of this volatil Mineral Acid in this Water, he takes from the Water in Perfection, tinging more slowly with Galls; but it's readily striking the deepest Dye with the Water partly spoiled of it's Acid by Agitation or Exposure to the open Air. *Essay*, P. II, § 277, 1, 2. Doctor *Limbourg* will have it, that Nothing but Air escapes in these Agitations, and therefore, that Air alone produces these Effects, which *Lucas* proves, § 278, &c. to be done by an Acid.

This Truth is further evinced, 1. By all these Waters dissolving Filings of Iron, but *Tonnelet* more by two Granes, in a given Proportion, than any of the rest, and retaining that Metal dissolved several Days longer, than any of the rest, § 279, § 280, § 281.

2. It is further evinced by the Contrast with Alkalies, liquid and concrete, which is greatest in the *Tonnelet*, § 283, &c.

3. This is further evinced by the Ebullition and Contrast upon mixing the grosser Acids with these Waters, which are greatest in the *Tonnelet*, in the natural State: For, when these Waters are spoiled of their subtil, volatil, native Acid, by Agitation or by Fire; the grosser Acids mix with them, without any Commotion. See § 285.

4. This is further shewn by these Waters, all decomposing Sope, *Tonnelet* the most of any, in the natural State. While all, when spoiled of their volatil Acid, mix smoothly with a Solution of Sope. § 286.

5. This receives further Proof by Distillation, § 292, &c. all the Phaenomena giving Assurance of a greater Quantity of the subtil, volatil Acid and elastic Air in the *Tonnelet*, than in any of the rest. The distilling Water, 1. Spotted blew Paper, placed in Junctures of the distilling Vessels, red. 2. When distilled, turned Sirup of Violets, a rose purple. 3. Curdled, a Solution of Sope, 4. Turned Solutions of Silver and Lead, milky, while the remaning Water in the distilling Vessel, being rendered turbid by the Loss of the subtil solvent of the Earths and Metal, after Filtration struck first a pale blew, and soon after a green, with the Sirup of Violets.

These with any Body, who was not blinded with perverseness, must prove a subtil volatil Acid in all the Waters of Spa, but most of all in the *Tonnelet*. Doctor *Limbourg* does not presume to contradict one of these Experiments; but pitches unfortunately upon one, and contradicts that with shameful Hardiness, though he must confess, if these be all True, which he does not deny, that must necessarily be just, and for the same Reasons.

Doctor

Doctor Lucas is willing to rest his whole Credit upon this simple Experiment, § 274; to wit, that with pure, well-colored and perfect Sirup of Violets, the Tonnelet Water strikes different Shades of four different Colors; 1. a pale Crimfon; 2. instantly after, a bright Rose Purple; 3. a bright, Sky Blue; and 4. a Green; and that two of these Colors, to wit, the Green and the Blue, are at one and the same Time visible in the Mixture.

But, Doctor *Limbourg* cannot afford this any Credit. All the other preceding Phaenomena, he seems to confess true; but this is not to be wondered at; since he seems to think that Air alone in Water, is capable of producing all those Effects, which real Philosophers can ascribe onely to the Power of a subtil, volatil Acid. But, as the Doctor does not yet allow that simple elastic Air can change the Color of the Sirup of Violets, though he admits it will dissolve Iron and Earths; so he thinks it incumbent on him to oppose his Observation and Experiments to Lucas's. Let the curious fairly try and judge from their own Senses. Some Authors improve in Time, upon their own Works. What Pity it is, our Author goes retrograde! For his Notions of this *Air* and *Acid Spirit*, in the *Recueil*, are just the Reverse of those of his *Traité*, p. 76.

But, we must not here overlook a Sample of Doctor *Limbourg*'s Generosity: He is willing to give Lucas a fair Opportunity of recanting his Error, by making him confess, that he did not know how to choose the Materials for his Experiments, or to set down Circumstances with due Precision. Lucas, says he, *might have used Sirup of Violets, changed red by some Acid, or some purple Dye, or by Fermentation. Or, having used an Umbrella, when he made his Experiments in the open Air, this might have reflected some Tint; for he does not mention the Color of it.* p. 26.

Doctor Lucas must not be thought willing to accept of Subterfuges, which are the Refuge of the Ignorant.

rant. It must be presumed, he understood the Color and the whole Nature of the Sirup of Violets. If it were changed and turned red, before he mixed it with the Water, it is not very likely he would use it; or if he did, that he would ascribe to the Water, a Change which was visible before Mixture. And, it is hardly to be imagined, that he, who took Notice of the Color of the Sky, under which he first made the Discovery of the Color produced, should not attend to the Effects of any neighbouring Color, which might have been reflected, as well as from that of his Umbrella, which was of a dark brown. How just, how ingenuous, how candid these Insinuations are, is left to every impartial, sensible Reader.—— Might not Lucas with equal Reason and Propriety, suppose, that as the *accurate* Doctor *Limbourg* discovered but *one* Color, to wit, *green*, upon the Mixture of the Sirup and this Water, he used Sirup by the Mixture of some Alkali, spoiled and changed to green. But though the Author of those little Insinuations, can not be high in my Esteem; I shall rather take him for any thing than a Fool. He must upon the whole, excuse my following his Example.

But, I must not omit doing Justice to another of our Author's Positions, which I had like to have overlooked. Or *perhaps*, says he, the *Cause of Lucas's Error may be, this Spring's standing in the open Air, and more exposed than any of the rest, the Rays of the Sun may give the Mixture a red Cast.*—— There are none so blind as those who will not see. The Author, had Truth been his Object, must have learned from the *Essay*, that Lucas's Experiments were made at the Tonnelet and other Springs, before Sun rise, and so repeated upon the Spot often, and afterwards, in the Village very often, and even in London. But that, had it been otherwise, and the Sun had actually shined upon the Mixture, the *ESSAY* §. 274. 1, 2. had our Author chose to regard it, would have shewn him, that the Sun Beams must have produced a contrary Effect, from what he insinuates; they must quickly have

have decomposed the Water, and so must have changed the Mixture to a *green*, not to a *red*.— Does this Philosopher's Works deserve so much Attention? I confess, I think not; and yet the Cause of Truth, and self-justification, requires the undeceiving those, on whom he may have imposed.

In the next Page, we find *our Hero* exulting on the Downfal, he has given *Lucas*; just as the French Monarch, as a Proof of his being the most Christian King, willing to bless God for all Things, was never known to fail to sing *Te Deum* for a Victory gained, whenever his Army was routed or most beaten, by the English.

“ Thus fall the Reasons,” says the Doctor, §. 27. “ by *which* Lucas thought to have proved, that the Tonnelet contained most of the Acid.”— Till now, he every where seems to deny the Tonnelet any Acid. Now, he consents to give it some, provided it be confessed, that the Pouhon has more. Let the Experiments before recited from the *ESSAY*, which remane as yet unquestioned, if not unquestionable, let these determine the Controversy by Facts.

Doctor *Limbourg* is not altogether so Ignorant as not to know, that the lightest, the most airy and spirituous Chalybeate Waters, those in which most of the subtil, volatil mineral Acid is found, are by all the best Writers declared to be the most active and excellent Waters. This demands the Assent of common Reason, and would have had the Doctor's Concurrence, had he not given a contrary Opinion before, which, by the cogent Laws of the numerous Tribe of the *San Grados*, he thinks himself bound to maintain. *Tonnelet* then may, for our Author, uninterrupted enjoy it's super-abundance of simple elastic Air; but shall not have any of the detached volatil Acid: That is all little enough for the *Doctor's Pouhon*; nor shall it be sayed, that the Rustic, the Mountane Nymph of the *Tonnelet*, shall vie with the Deities of the Town of Spa. Here live the *Smiths* who forge the Shrines

for the Goddess. By this *Craft*, they get *their Bread*. Great is *Diana* ! Great her *Priests* ! Long live *Diana* ! and long live the *Silver Smiths of Ephesus* !

The *Pouhon* then, since the *Acid* is insisted on, must have the greatest share. And according to the *learned Doctor Limbourg*, it has it. — Behold his *Proof* ! *Acids* being at length, contrary to former Positions, confessed in the *Waters* in general, as these *Acids* are the general Solvents of the solid Contents of the *Waters*, except in the *Waters* of the *Tonnelet*, where our *Author* asserts, that *Air* alone acts that Part ; “ the *Pouhon Water* containing twice as much fixed Contents as any other, must therefore have a double Portion of the *Acids* ” Thus, the *Doctor* argues. — Let me ask this *sagacious Chemist*, If to two equal Portions of simple *Water*, be added, to the first, an Ounce of the pure *Acid* of *Vitriol*, *Nitre*, *Salt*, or *Vinegar*, and to the second an Ounce and a half, or more, of the same *Acid*, with as much *Metal*, absorbent *Earth*, or *Alkali* as will nearly blunt or saturate the *Acid*, which *Water* will be found to participate most of the Qualities of an *Acid* ? Must not the first do this, in which the *Acid* is unaltered, detached and free ? Must not this give every *Proof* of containing an *Acid in puris naturalibus* ? while that which received a greater Quantity of the *Acid*, blunted or neutrated, can shew few or none of the Effects of the given *Acid* ? — The *Doctor's* Answer is found in the same Paragraph, where he is forced to confess, that the Reason why the *Pouhon* gives less Proofs of Acidity than the *Tonnelet*, in dissolving *Iron*, changing *Sirup* of *Violets*, &c. is the *Acid* in the former being in some Measure neutralized by the greater Proportion of fixed Matters. Here is a clear and candid Confession, truly worthy of the *Pouhon Colossus*.

I shall keep myself clear of the *Doctor's Whiffing* about the Production of the *Air*, and shall let him dive at his Leisure into the Bowels of the *Earth*, to ascertain, whether it arises from *Putrefaction*, *Fermentation* or *Effervescence* ; whether it arises from subterranean

near intestine Motion, from the neighbouring Bog, or be introduced from the Atmosphere.—These are Matters, on which I do not expect to see much Light thrown, no not even when the Doctor ascends from below. Nor shall I further examine his metaphysical Reasoning, to prove that the Waters, which appear upon every Trial to have most, have, as he says, *least Air*, and that they that appear to have the *least*, have the *most Air*. On these, he may ride in his triumphal Car, unmolested by me.

Well; after denying the Tonnelet's containing more Air than the rest of the Waters, he comes at length, § 29, to accord a super-abundance of Air, but purely with Intent to decry the Water. Here, he makes an aukward and unjust Quotation of our *HALES*; shewing, that this reverend Philosopher gave those mineral Waters the Preference, which appeared to abound with Air. Our Author ventures to enlarge upon this Doctrine, in which, he runs into Contradictions and Absurdities rather greater than usual. "This Air in Mineral Waters," says he, "seems to serve to disengage the spirituous Parts, so that, by preventing their intimate Connexion with the fixed Elements, they may act more freely according to their Nature; thus, they appear to be brought into Play, and to derive their Spring and increase of Action from the Air; whence it follows, that the Air is useful in these Waters, so far as a sufficient Quantity thereof seems to obstruct intimate Combination, or the immediate Contact of the Acid and the fixed Parts."—Thus our *great Spa Philosopher*! All the World, but Doctor *Limbourg*, would condemn such an Obstruction of Union and Contact, in the constituent Parts of a Mineral Water, whose Excellency depends upon the intimate Union of the Parts. But, as this is impossible, they must laugh at the whole absurd and ridiculous Jargon.

Now, *the Doctor* being forced to confess all the Principles, which he before denies, and *Lucas* asserts,

in the Waters, to be evident in the *Tonnelet* Water, which before had much less Air than any other; the Point at present is to prove, that, since this Spring has unfortunately got most, of what it before possessed left of any, if at all; it actually has it in such a Proportion, as to be hurtful and destructive, while it proves wholesome and beneficial in the *Pouhon*, p. 30, 31.—Are we to believe this Man serious or in jest? or in his right Senses? or the Reverse? Heaven restore the poor Man!——One Time, *all that is volatile in the Tonnelet, is only Air*; another, *it contains no Air at all, or at least, much less than the Pouhon*. Now, *Air is super-abundant and destructive, in that which has the least of it; and good, moderate and wholesome, in that that has most of it!* Poor Gentleman, he as little knows the Proportion of Air, which Water is capable of receiving or holding, as the Proportion of Water, which the Air can carry. Yet, he talks as confidently of the Quality and Excess of Air in the Water, as if he had just come from viewing the Operations of Nature under the Mountanes of Spa! Labor Mountanes, and let the Mouse come forth!

His Reasoning on the evil Effects of this Air in the *Tonnelet*, not in any of the others, is of a piece with the Rest.—“There are,” says our Author, “many Cases, where so great a quantity of Air, (in the *Tonnelet*, not in the *Pouhon*) coming to be rarified and dilated, may by accumulating itself in the Bowels, occasion a Weight, a Swelling or an Irritation; or by stealing itself from one side to the other, may occasion a Coldness; since the Heat of the Bowels may rarify the Air, and make it expand itself extremely, before it acquires the natural Heat, which explains, why the *Tonnelet* Water, which is not actually more cold than the other Waters, as has been thought till now, Cools notwithstanding more than any other, from the great Quantity of Air, disengaged by the natural Heat, which diffuses itself, and it's Cold wheresoever it can penetrate.” Here is the wonder

wonderful Wonder of Wonders ! Sure the Doctor would not pretend to say all this of any other Air, than that of the *Tonnelet* Water : It is plane he does not insinuate any Thing like it of any other of the Springs, which he asserts more windy and more cold. But the Air of the *Tonnelet* has every bad and surpising Quality : It gives *weight* to the Body, so as to cause distress. It is *not* Colder than that of the other Waters, yet it Cools more excessively. And contrary to the Properties of all other Air, it is *rarified* and *expanded*, without being Heated. And what is not to be borne in any regular Family, *it is a Thief*. Besides, if I mistake not, the Doctor was one of those Physicians, who frightened the World, in my Time, from using this Water, because it's Taste shewed it to be charged with Alum, and it's Coldness with Salt Petre. So that between this and the Geronstere, one may be brought to smell Gun-Powder.

He comes next to make a flat, bold contradiction of Statical and Thermometrical Experiments, clearly and fairly made and often repeted, by Doctor *Lucas*. These are set down in the Essay. P. II, § 271, 272 ; the one with an accurate English balance, made for Hydrostatic Experiments, the other by one and the same Thermometre, the makers name mentioned. How these can now be found to vary or err, no body but Doctor *Limbourg* can conceive. But, sure it is incumbent on this Gentleman to give proofs of the excellency of his Instruments, and the Accuracy of his Experiments and Observations, before he can suppose, much less assert, those of another false and Erroneous. But let others prove the Truth by Facts, the Doctor offers no proof further than, *Magister dixit*. Believe him, who will.

Let me but ask the Doctor, if the *Tonnelet* Water be not more Cold than the others, why is it's Air more Cold and more Destructive, as he asserts ? And how comes it that the *Tonnelet* is not the lightest Water, when it contains such an excessive Superabund-

ance

ance of this Cold and Penetrating Air? and so much less of Solid Contents than any of the Rest? But it may be Inconvenient, and little to the Doctor's present purpose, to give answers. Let him not be pressed.

But, the Doctor may expect some answer, when he asks, p. 33. *why Lucas should ascribe the lightness of the Water to the abundance both of Elastic Air and Spirit, rather than to one of them alone, and that Air, ever so slightly rarified?*—Answer; because this like Air and Spirit in Waters are generally Inseparable, and because from all the Experiments and common Effects observed, both are Discoverable in greater abundance in this, than in any other Water.

I have already obviated his disingenuous Insinuation of the badness of the Balance and Weights, I used. The Scales were Mr. *Berkiey's*, a public Spirited English Gentleman, well known at Spa. The Weights, were those used by the Apothecaries of Spa, except the smaller Weights of Drachms, Scruples and Granes, which were of the London Standard and exact; and as the Difference of weight of all the Waters exceeds not Two or Three Granes, it Matters little whether the greater Weights were True or False, as the self same were always Used. Let this however be left to competent, indifferent Judges, and not rely solely on contradictory Assertions.

The Doctor next Asserts, § 33, that the Reasonings of *Lucas* tend to prove the other Waters more Spirituous than that of the *Tonnelet*. But, as he onely says this, without any proof, with onely an insolent Sneer; I shall pass it over as I might much of the Rest, as quite unworthy of my Notice.

In his § 34, the Doctor promises to explaine the Sources of *Lucas's* manifold Errors. In this, he succedes as usual. He sets out with asking Magisterially, “But what could involve Mr. *Lucas* in such and so many different Errors?”—These are so many *gratis Dista*, supposing these Errors made evidently

dent by his Criticism. Among these, he enumerates the Experiments of the little Fishes in the Mineral Waters; cites a part of the Paragraph, taking Care to mutilate it, by leaving out all that could not serve his Purpose. In this Experiment, ESSAY P. II, § 495, 496, it is shewn, that the little Fishes died Suddenly in all the medicated Waters, but in less Time, by the half, in the Waters of the *Tonnelet*, *Brue*, &c. Then, to shew that this is to be ascribed to no part of the Composition, but the Air and Spirit, it is Observed, 1. that the Waters, which by preceding Experiments, are found less charged with Air and Spirit, are slowest in producing the Effect; and, 2. that when any of these Waters are spoiled of their Air and Spirit, by being exposed some Time to the open Air, or by Agitation, these little Fishes are found able to inhabit them, without the violent Emotions or sudden Death, which attend them in the Waters, replete with Air and Spirit. How candid it was in the Doctor to leave all this out, as unsuitable to his purpose, let the Disinterested and the Dispassionate Judge.

In § 35, the Doctor fully assured of having made out the *various and manifold Errors* of *Lucas*, ascribes them all to *Prejudice or Prepossession, and a Desire to make every Thing subservient to the formed System, whether Right or Wrong*. This requires no particular Animadversion. The World may see, that Doctor *Lucas* has encountered Prejudice and Prepossession, rather than embraced them. In this ESSAY, it is plain, he lays down the Experiments first, and from their Result, forms his System. Whereas our Author, in his *Treatise* on these Waters, has taken a quite contrary Course; he forms the System first, asserts the general Impregnation of the Waters, then offers Arguments to support the asserted Notions. See *Traité*, P. I, chap. IV.

Here, the *great Critic* tells us, "that the *Tonnelet* could not hope to obtain the Preference to the *Ge-*

ronstere, without effacing the Idea of the sulphureous Principle, and of this, *Lucas*, by the force of Prejudice alone, has acquitted it, without any Difficulty." Then follows a false Quotation, which furnishes Matter for a malignant Commentary: He makes *Lucas* say, *that the Geronstere has the same smell of other Waters, which may be considered in some Sort as in inodorous; at the same Time, he gives this a fetid Smell, &c.* Now, Ignorance of Matter or Language cannot justify a false Quotation. *Lucas's* Words are, speaking of the sensible Qualities of the *Geronstere*, *ESSAY*, § 230, "with the smell common about the other Waters, which may in themselves be considered as inodorous, this Water has somewhat of the fetid Smell, which some ascribe to rotten Eggs, or more like the Solution of Liver of Sulphur, precipitating by an Acid, &c." In the Words thus fairly and simply recited, pray where is the Contradiction? And though *the Doctor* sets out with asserting, *that Lucas Effaces the very Idea of the Sulphureous Principle*; in the Sequel, p. 41, he is forced to contradict himself and admit, that *Lucas* ascribes, as indeed he does, this smell to the *Sulphureous* or *Inflammable Principle*, by a small Portion of which, the universal Acid, escaping from decomposing Pyrites, seems subtilised and volatilised. And he asserts, that this Water gives no Kind of Proof of being Impregnated with real Sulphur. The Doctor, surprised that *Lucas* admits one of the Principles of Sulphur, not the Compound called Sulphur or Brimstone, to *our Critic* Incomprehensible; puts this Sagacious and weighty Question; "does this Smell of the washings of a foul Fusil, this smell of Liver of Sulphur, exist in the mineral Kingdom, other than in Brimstone? —I answer, yes; in the combustible Damps in Mines; in the various ways of decomposing of Pyrites; in the solution of Iron in the vitriolic Acid; and in Waters deprived of free Air, in the Bowels of the Earth, in the bilge Waters of Ships, and in Rain Water

Water kept in stagnant Air. All these, and many other Matters, give strong Proofs of being charged with the Phlogiston, the sulphureous or inflammable Principle, though not with the compound, Brimstone, of whose Composition, this Principle makes but about a sixteenth Part. When the Doctor learns to distinguish Principles from Mixts, Bodies composed of Principles, from their component Parts, he will understand, though perhaps, not relish, this Position, so unfavorable to his *righteous* Purposes. Then, and not till then, will he comprehend, what without conceiving he carps at, what *Lucas* has sayed of the Sulphur in *Aken* Waters. This may suffice for all that our Doctor advances on p. 41, 42, and 43.

But here, he says, that *he knows no such Thing as Putrifaction in the mineral Kingdom*. Let him rank Water in what Class he will, he shall find, it will Putrify under and above Ground, inclosed in stagnant Air, even in Glass Vessels. Though he take for this Experiment the purest Rain Water, and surely, he may find it free from Brimstone, and keep it in a close corked Glass Bottle, about half full, he will find, in Time, the Effects of Putrifaction; this Water will in his Sense, smell and taste Sulphureous and Bitter; it will tinge Silver Yellow, and give all the *Doctor's* superficial Proofs of being Sulphureous. Will he then venture here to assert, that this Water is charged with Brimstone?—Let Leaves of Trees be steeped in such a Water for a Time, then dried, and he will find them as good Brimstone Matches, as those taken from the *Geronstere*.

We are now come to the weightiest and most severe Charge, made by this Author, against Doctor *Lucas*. This, he calls a *terrible Error, or rather a frightful Imputation, made against Mineral Waters in general, against that of the Poubon of Spa in particular; that of obstructing the Thyroide gland, as all the hard and selenitous Waters are found to do, universally, when*

excessively drank for a length of Time. This, Doctor *Lucas* asserts, from his own Experience and Observation, ESSAY § 507, and Doctor *Limbourg* for the sake of *Humanity and the Honor of the Art*, and the great Goddess *Craft*, positively contradicts; but without any other Proof, than negative Assertions. The Instance he gives of a pretended cure of a *Bronchocele*, p. 46, 47, shews he did not think the *Pouhon* Water was to be trusted; for, he prescribed that of the *Geronstere*. And his negative Proofs amount to no more, than what may be sayed of all the Waters at the Foot of the *Alps* and *Pyrennees*, of those of *Rbeims*, that of the *Aqueduct d'Arqueille* at Paris, &c: One sees, in all these Places, as the Doctor confesses at Spa, *many People*, with the Gorge tumified, the *Goitre* of the French, but no where, are *all the People* found thus affected. Why then may not the Doctor's Scotch Patient, p. 48. escape in the Number?

But terrible as the Doctor finds this Charge, there is another more dreadful to the *Craft*, the asserting that the Waters in general, without excepting the *Geronstere*, contrary to the Notions artfully propagated by designing Men, *bear transporting*, without any essential Loss. This, *Lucas* asserts, from Experiments and Facts, ESSAY, § 523. And Doctor *Limbourg's* Solitude to contradict this, serves to explaine the Cause of an Abuse, which I discovered since I returned from Spa.

During the Course of my Experiments on these Waters, I saw Reason to condemn the ordinary Method of filling and stopping the Flasks to be transported. This is often performed by a single Man, who sets a Number of Flasks, perhaps a Gross, in a Kind of a Frame, with their Mouths up. Then, he takes up a Pail full of the Water, often from the spoiled Surface of the *Pouhon*, and by Means of a Tin Funnel, fills all the Flasks with such Water. When he has filled them all, he begins to cork the first filled, and so proceeds to the last. It is easy to conceive what the
Water

Water thus long removed from it's Spring, and left open must suffer, especially in the warmer Weather. When filled, the Cork is tied over with Wire, then dipped in melted Pitch, or has a Bit of Leather, with some Pitch upon it, tied over it. And thus it is generally transported.

I suppose, Doctor *Limbourg* will confess with me, that this Water cannot be in the highest Perfection possible. I therefore, resolved to try to get it transported in the greatest Perfection. And for this Purpose, I contrived a Kind of Wax, made of fit Proportions of Bees Wax, yellow Resin, and red Lead Plaister.

Having filled Flasks with all the different Waters, with as little Agitation as possible, and corked them as full and as quick, and with as little Agitation as I might, I had them secured with Wire; then, drying the Cork, Mouth and Neck, of every Flask, I had it dipped in the Wax, or Ciment above mentioned, then tied over with Leather, some, and with Bladder and Leather, others.

This Method, I have since found preserved the Waters, for Years, in the utmost Perfection.

I employed Doctor *Limbourg's* Apothecary for my Amanuensis, upon this and some other Occasions, and having shewn him the Composition of the Wax, I told him, if it succeeded, the transporting the Waters in greater Perfection than ever, may be made an Article of Commerce well worth his While. He seemed highly pleased and thankful, and promised to execute such Commissions, as I should send him, or procure him, with the utmost Care and Fidelity, and strictly conformable to my Directions.

Upon my return to London, I was pretty well able to judge of the Efficacy of this Method of transporting these Waters in Perfection; and for the Credit of Spa, the common good of the Public, and the honor of the Healing Art, gave Orders for some of the different

ferent Waters, thus filled and secured, to be sent to London and to Dublin.

Why Doctor *Limbourg's* Apothecary did not think fit to fulfil his Engagements, which must have proved so advantageous to himself, having an advanced Price for the additional Expence and Trouble, he and the *Doctor* can best tell. It is natural to suppose, he would not for the Emoluments of this new Branch of Trade, suffer the Doctor's Credit to be called in Question, who so positively did, and still does, assert, that the Waters cannot bear Carriage.

Therefore M. *de Leau* took Care to verify the Doctor's Words fully ; for, I affirm, that not one Flask that he sent upon these Orders, was either filled or covered agreeable to my Directions. Many of them were not near full, and none of them had a better Covering than a little black Refin, which could not be kept from crumbling into Powder, though it was covered over with Leather. Upon this, the Doctor may be as positive as he will, that the Waters will not bear Carriage.

But Now, the incensed Doctor begins to grow humane and charitable. He begins to drop his hard Words. He tells us, the *rest* of Lucas's manifold *Errors*, are for the present to be wiped off with a Sponge ; taking Care, hereafter, to give further Correction, when he favors the longing World with another Edition of his *Treatise* on the Waters of Spa. The rest of the Paragraph runs softly, modestly on.

But somewhat seems to have ruffled the good Doctor's sweet Temper, before he wrote the next Paragraph, § 39. The Doctor is displeased, because the Writers on the Spa Waters are represented in the true Colors, without sparing the Faults even of the great HOFFMAN. Doctor *Limbourg* is displeased, because those who analysed the Waters are not complimented. I never saw a just Analysis of any of those Waters.—He in effect asks, *Did he not read my Book ?* No truly ; it was taken out of Doctor DOCOREE's Hands, who

who was to have seen it printed at Leyden, in order to have some of it's most palpable Blunders corrected by my Experiments, as M. *De Leau* related them. And, when I saw it, after the ESSAY was printed, I found nothing new or worth Attention in it. Then, towards the Conclusion, he asks, "In short, when one ventures to utter such Ideas, to give into Paradoxes and to support *Errors*, such as those of Lucas, how can he expect any Credit to be given to his System?"—Still harping upon *Errors*, though of the Multitude, he has not Sagacity enough to discover one! Who then is most severely to be censured, he who exposes the real, not the imaginary Faults of others, for the sake of Truth, and the common good? Or he, who out of unprovoked Malice and Envy, racks his own Brain and tortures the Works of other Men, in search of Faults; and being unable with all his distorted Sophistry, to find any Faults, talks of *Mistakes*, *Errors*, *Imputations*, *Prejudices*, *Prepossessions*, &c. &c. &c. which have no Existence out of a fretted Author's heated Imagination? Can this Gentleman deny, that at *Aken* at *Liege*, at *Spa*, and other Places of the Continent, there have been Physicians hired to write, and to publish, what they were bid? Does swearing in *Verba Magistri*, demand no Censure? With Doctor *Limbourg*, this seems but a *venial Sin*; while the exposing the Wretch, who is a Scandal to the Profession of Physic, a Reproach to Humanity, a Pest to Society, is no less than a *mortal Sin*! Let Obscurity and Oblivion hide such venal Slaves!

But now that the Doctor has the Modesty to ask, this important Question, *n'auroit il pa lu mon Traité?* I must give him a more particular Answer, by some convincing Proofs, that I have read his Book, and yet have not been taught to alter my Sentiments.

Having made, repeted and finished mine Experiments on those Waters on the Continent, which attracted mine Attention, and returned to London, I
heard

heard that Doctor *Limbourg's* long promised *Treatise* on the Waters of *Spa*, was called back from the Press, corrected, remanded back to the Press, and published about the Year 1753. Upon looking into it, I soon found the Informations I had received, relative to the Work, were true, and that the whole appeared an ill collected, indigested, inconnected, crude medley, calculated to render the Nature and Qualities of the Water more obscure and mysterious, the Practice most doubtful, dangerous and difficult, and not to be ventured upon, but under the special Conduct of JEAN PHILIPPES DE LIMBOURG, Doctor in Physic, the only surviving, hereditary Priest of the Mysteries of *Spa*, his Ancestors, Father, Uncles, Cousins, of the Faculty, *Limbourg, Chrouet, De Prosseux, &c. &c. &c.* being dead.

I shall first venture to pronounce this *Treatise*, one of the worst and most mean Performances on the Subject, a labored Tract, in which the Author nowhere shews the Naturalist, the Philosopher, the Chemist, or the Practical Physician. Now to come to Particulars :

I shall not think it necessary, or worth the while, to pursue this perplexed and perplexing Author, through the Mazes of Inconsistencies, Incoherencies and Irregularities, in which he envelops himself — I shall content myself with laying a Finger, here and there, upon some of those that may be thought the least palpable of his numberless Errors.

I overlook the Changes made in the first Edition of this Work, and take up the second, which was published at *Liege*, in the Year 1756.

In this, he sets out, p. 53, with shewing the *extreme Difference* of the Waters at *Spa*, enumerating them severally ; while in his *Recueil*, he labors to shew, sometimes *their Difference*, and at others, *their differing but in imperceptible Shades*.

To judge of his Philosophy, see his Notions of the Origin of Fountanes, *Traité*, p. 61, 62, &c. where he asserts, Springs in general, those of *Spa* in particular, to arise from *subterranean Vapors*, raised by certain Fires in the Bowels of the Earth. You may see how these differ from my Notions, founded on the best Authority, in the *Essay*, P. I. § 25, &c. And P. III. Of the Heat and Causes of Heat in Baths, p. 110.

After this, p. 65, he ascribes, as one of the Causes of the greater Strength of the *Spa Waters*, the *Acids* which accompany the *North Wind*. Who will deny him the Credit of the Discovery? He says, p. 68, that he doubts there being any Kind of Body, which may not in some Sort, or perhaps perfectly, be dissolved in Water, at least, by the Means of some Salt; since it is demonstrated, that one of the most powerful of these Salts, the Spirit of Sulphur or Vitriol, is universally diffused throughout the Creation. This Acid, you see, is Doctor Limbourg's universal Solvent. You will not wonder then, that the Doctor should find Waters charged with *Flint*, with *Crystal*, with *Diamonds* and other *Gems*, as well as with *Silver*, *Gold*, *Lead* and *Tin*, p. 69; to which he might have added *Antimony*, &c. though all these Bodies be reckoned alike insoluble in this Acid, especially in any natural State, in which it has as yet been discovered by any of the Chemical and Natural Philosophers before Doctor Limbourg.

In the next Chapter, we have new Proof of the Subtility of the Doctor's Philosophy. He confesses, that he has somewhere heard of *Elements* or *Principles of Bodies*. But, however necessary, a perfect Knowledge of the *natural Principles* or *primary constituent Elements* of Bodies must be confessed, to one who sets up for the analysing Bodies, or separating them into their constituent Parts; the Doctor modestly gives up a Disquisition into such Subtilities, and contents himself with taking for these fine, sub-

til, indivisible and unalterable Essences, which are the Elements of Bodies, the gross mixed or composed Bodies or their Effects. The Doctor's Elements are, *Fire, Air, Water, Earth, Brimstone, Spirits*, the different *Salts, Metals, Oils, Bitumen, &c.* p. 72. You need but look over the *ESSAY on Waters*, P. I. § 6, &c. to see how widely *this Philosopher* differs from all that have gone before him.

After shewing the Difficulty of the Task of discovering these gross Bodies, the Doctor's *Elements*, in Water, he next comes to shew his Accuracy, Caution, and Precision, in his Proceeding, and sets forth the Means and Materials he used. And unfortunately stumbles upon false Weights: For, he tells us, p. 73, that he used Weights corresponding with those of the Goldsmiths, of which *sixteen Ounces* make a Pound.—With us, and as far as I can learn in Commerce, Goldsmiths, and honest Apothecaries use the *Troy* or *Venice* Weights, of which *twelve Ounces* make a Pound.

His Balance, we shall find of a most extraordinary Structure, p. 74; for, while he weighed about a Pound in it at a Time, he would have us believe, it turned with some small Fraction of a Grane. Sure Doctor *Limbourg* is the first who ever found such a Balance. I suppose the Pinions of the Scale played on Diamonds, for the Friction of all Metals must prevent the varying of the Scale sensibly by so small a Fraction, with so heavy a Weight.

He tells us, in the same Page, that he compared the Effects of different Mixtures with the *Spa* and with *simple Waters*; but he neither here, or elsewhere, that I can learn, acquires himself, or gives us any Notion of *simple Water*, more than of *Elements*; nor does he tell us, what Water he used for *simple*. And you see by the *ESSAY*, how different the common sweet Waters even of *Spa* are, how far from *simple*, the *simplest* there appears.

He

He thinks himself happy in the Discovery of the Use of the Juice of *Tournsol*, and Tincture of *Alcannet* in the Trial of Waters. The first you see always used in the *Essay*, though it be but cautiously to be used by experimental Philosophers, as in some Respects it is found less sensibly affected, than the Juice or Sirup of Violets. And yet, the Doctor finds the *Tournsol* suffers a Change with the Waters, which in the *Recueil*, he positively denies to the Sirup of Violets; the *one*, he says, becomes *red*, the other appears but *green*, with the Waters. Is it not reasonable to presume, that if the Waters strike a *red* with the *Tournsol*, and this from what the Doctor himself calls *the predominate Acid*, p. 74, 75, that the more sensible *Sirup of Violets*, would not shew some Degree of the *same Color*, but from that very Sensibility, less permanent, than in the former? And does not the Suddenness of the Changes in the Sirup of Violets evidently depend upon the great Volatility of the Acid of the Waters? This appears from the *Tournsol's* changing from *red* to *blew*, upon standing.

As to his *spirituous Tincture* of *Alcannet* Root, it does but lead the mistaken Gentleman into new Mazes of Errors; for, it is the *Iron*, not the *Alkali* in the Water, that changes the Color, as it does that of an Infusion of red Roses, from red to some Shade of blew. Every Solution of Iron will be found to produce these Effects; and yet this Error runs throughout the *Doctor's* Works; for, the Effects of *Iron* are generally ascribed to an *Alkali*.

After this, the Gentleman would have us believe, that *he analysed* these Waters; for, though he is pleased to make them egregiously differ, in some Parts of his Work, as he makes them almost quite similar in others; he sets out in the Gross with asserting his Notions of them, which having framed, he collects Materials to support. This is the *Doctor's* Method of *Analysing*! How different from

that, layed down in the *Essay on Waters*, is left to your Judgement.

But, we must take the *good Doctor rough and smooth*, as we find him: *The Principles of the Mineral Waters of Spa*, says he, p. 75, *Are, Water, Iron, an Acid Spirit, a Sulphureous Spirit, an Alcaline Salt, a Selenitious Matter, and Air*.—Elsewhere, you will find, he adds *Glauber's*, and perhaps some other Salts.

Of these, he gives the common Proofs, given by many before him, not set down fairly and openly in the way of Experiments, but as *positive Positions*, which are generally to be taken *for granted*, without any Proof.

When he comes to the Proof of the Acid Spirit in the Waters, he shews how different his Notions are now, from what they were when he first commenced Author. In the *Traité* § 60, he gives some of the common Proofs of such an Acid, and justly rallies M. *Venel* for his Notions of the *Subacid or piquant Taste of the Waters' arising from their superabundant Air*. Yet in the *Recueil*, you will find these Notions every where embraced, and the arguments urged against me. See. p. 20, and seq.

From this Acid, here confessed and proved, though in the *Recueil* denied, he endeavors to separate and distinguish a *Sulphureous Spirit*. This, he attempts to prove, from the smell of the *Waters*, which he asserts are all *Sulphureous*; by the smell of the *Ochre*, the Product of the Evaporation, thrown upon a red hot Iron; the affinity between *Sulphur* and *Iron*, and other trifling Circumstances, besides Extracting a *yellowish Tincture* from the *Ochre* with Spirit of wine and Salt of Tartar, according to *Boerhaave's* Chem. proc. 154.

He but just now proved an Acid predominant in the Waters. He would not be contented with saying or supposing, that this Acid was, as probably it is, the volatil Vitrolic or Sulphureous Acid; but he must make it a separate and distinct Essence; but that failing

ing, his proofs are to make us believe the Waters actually Impregnated with *Substantial Brimstone*. See *Traité* § 61, No. I to VI.

But, the *Sulphureous Tincture*, No. III, to which poor BOERHAAVE's Name is tacked, bears no more Relation to Sulphur, than the same Author's Tincture of Salt of Tartar. And how much less does it serve to prove a Sulphureous Spirit in the Waters? Sulphur opened by an Alkali, you know, Sir, dissolves in rectified vinous Spirits, and these Solutions or Tinctures give a precipitate with Acids. But the Alkali alone, by BOERHAAVE's Proc. LXXX, gives a *Yellowish Tincture*, which gives no precipitate or other proof of Sulphur. Which is our Author's? —He dares not bring to the Test.

His proofs of an Alkali in the Waters, though it's presence is most clear, demonstrable, and I may say, demonstrated, are as vague and uncertain, as those of the Sulphureous Acid.

The fixed Alkali, says he, p. 81. *is demonstrated, 1. by the urinous and fiery Taste of the Salt obtained by the Evaporation of the Waters, 2 by the effervescence of the same Salt with Acids.*—How equivocal these proofs are must appear, by knowing that Bittern, the Mother-ley of Salt, evaporated to a Dryness, though it be by no means Alkaline, answers all these Tests. See the ESSAY on Waters.

The Alkali, says he, *is demonstrated 3 and 4 by the Green Color given Sirup of Violets by the Salt as well as the Water; by changing the Red Tincture of Al-cannet Root, Blew.*—Are not most of these Effects produced by solutions of Iron, of absorvent Earths, even of Alum, as Effectually as by an Alkaline Salt? See the ESSAY.

Of the existence of his next *Principle* in the Water, the *Selenitous Matter*, the Doctor gives no better Proof, though it be most obvious. This, he says, *is demonstrated, 1. by Evaporation, which gives a whitish insipid Matter, hard and crackling between the Teeth, and hard to be Dissolved in Water.* Here surely

ly is not a single Proof of a selenite or selenitous Matter, that does not as well Indicate any absorbent Earth. See how these Earths are distinguished and separated in the Essay.

But, his second Proof is still more absurd and far from Truth: For, to this *selenitous Matter*, he as absurdly as falsely, attributes the precipitation of a solution of Silver, caused by the Waters; Since Alkalies and neuter Salts produce the like Effects, and all the Acids hitherto discovered in Waters, simple or saturated by all the kinds of Salts as yet found in Waters, as also by all the soluble Earths as yet found in Waters, as well as by all the soluble Earths themselves. But no such Effect is or can be produced by the true Selenite.

The following Paragraph gives another proof of the Accuracy of the Doctor's Observation and of his skill in Physic and Chemistry. He says, p. 83. that, *in Evaporation*, the Waters become at first *more Acid*, and *Piquant*; because, says he, *as the Iron precipitates, it leaves the Acid to manifest it's natural Taste*. Here is a Chemist and Philosopher, rarely sure, if ever, Matched! Which are we most to admire, his Vanity or Arrogance? Does not the Water lose it's Taste, with it's Air and Spirits? Does it not suffer these changes by every Degree of Heat it gets, beyond the natural? Does the Iron take it's leave of the Water, to let this Element manifest it's Acidity? Or, upon heating, does not the Acid, which he elsewhere shews Sense enough to Confess, the only solvent of Iron, fly off, and thereby let the Iron, for want of a sufficient Quantity of solvent, subside? Shameful puerility! In his Dedication, the Doctor seems to think, he has done high Honor to the great Professors, to whom he dedicates this *favorite Child* of theirs, as he calls it. If he would not have this Offspring pronounced a *Bastard*, and rejected as a *Foundling*, he should strike off these illustrious Names from the head of his next Edition.—*N'auroit*

il pas lu mon Traite? I hope is answered; but I will go further into it, since the Author thinks fit to challenge me.

His Perspicuity appears in much the same Light, § 68. Here, we are to learn, that *the Iron having quitted the Acid*, not the Acid the Iron, *the Acid is left at liberty to fly off, or combine with the A'cali, in the Water.*—What kind of Salt must result from the Union of such an Acid and the Alkali in the Water, we may hope to learn in some succeeding Edition of this *great Work*.

After this, p. 85, he makes an aukward detail of his separating the parts of the Residuum after evaporation, into a *selenitous Matter* and *two Salts*, the one a *fixed Alkali*, the other a *neuter Salt*. But unfortunately, his pretended demonstrations afford no proof: His *selenitous Matter* may be any *calcareous Earth*, his *Alkali*, *Bittern*, or *Salt-ley*, or *Iron*, and his *neuter Salt*, resulting from the volatil Acid and the Alkali of the Waters, will hardly be found to have existence, beyond the Reveries of a distempered Brain.

Here is a brave hardy Gentleman, who is angry at Faults being found with any of the Writers upon the Spa Waters! And asks *n'auroit il pa lu mon Traite?*—A Man, who cannot improve upon his Predecessors, or offer something useful and new, has no right to burden the Public with any of his Writings. Bad as the Works of this Gentleman's predecessors appear, he has in his pretended Analysis, equalled but few, and hardly outdone any of them. Yet he must Write! Write he did. And to what purpose? None but that of the *Craft*: For, all Sensible, Intelligent and Judicious Readers will throw by the pompous and highly puffed lumber, as I did, 'till I found myself challenged by the Author, to take it up again.

I should now, in my turn, ask Doctor *Limbourg*, if he had not Read my *Essay on Waters*? But he has anticipated me, if I were so inclined, by saying, he
has;

has; and that he learned English for the purpose. Yet, it will be found, he has Read but to little purpose; since he has not been able to correct his premature Work further by it, or shew the real faults in mine, while he so virulently carps at imagined Errors.

Mine Experiments are all plane, simple and demonstrative. Every Man has it in his power to repeat, and so to prove or disprove the Truth and rationality of them. In mine ESSAY, I have shewn the Waters of Spa to be composed of different proportions of the following Ingredients, 1 *Water*, 2 *Air and an Acid Spirit*, 3. with *Iron*, 4. with *Selenite*, 5. with *absorbent Earth*; 6. with an *oily Matter*, common to all Waters, in the natural State; 7. with a *fixed Alkali*. All these are separated, distinguished and severally proved, with their respective Properties and attributes; yet all these, the Doctor overlooks or leaps over, as best suits his Purpose. He does not presume to confute or contradict one of these Experiments, or one of the Arguments upon them founded. Yet, we are to apprehend by his *Recueil*, that he is to overturn Lucas's *whole System* of the Waters of *Spa*. See how he succeeds:

Well! the Doctor's fifth Chapter promises an explanation of preceding Phaenomena, and a resolution of such Difficulties and Questions, as may arise concerning the Spa Waters. Yet, in the Sequel, you will find him blundering on, upon the preceding false Principles, by which he accounts for the Changes of Colors with vegetable Mixtures, p. 89; the Precipitations of metallic Solutions, p. 90. 91.

Though in his *Recueil*, he sharply contemns Lucas's Notions of the *Air and Spirit of the Waters, flying off together*; here, he asserts it in positive Terms; p. 91, No. II. and then goes on to the *singing* of the *Springs*, and the alteration of the Pouchon Water; in the accounting for which, he is equally precise and clear, as in former demonstrations.

In p. 97, 98, he asserts, *that Acids cause no Commotion upon Mixture with the Waters.* I assert the contrary, supported by clear Experiments and fair Reasoning; *ESSAY, P. II. § 110 and Seq.*

The Precipitation of the *Sugar of Lead*, he ascribes to the *Selenite*, the *Iron*, and the *Alkali*, in the Water. Though the *Muriatic*, as well as the *Vitriolic* or *sulphureous Acid* and the *absorbent Earths* and combinations of them produce the like Effect.

Though he sets out with charging these Waters with *two Spirits*, the *one Acid*, the *other Sulphureous*; p. 99, he pronounces *both*, but *One*; to wit, a *very volatil sulphureous Spirit*; and offers his imaginary *Glauber's Salt* as a proof, which few, I presume, will take at his Hands. And to shew his skill in Chemistry still further; he ranks the *Æther of Froebenius*, with the strongest *Acids*, though it be quite void of all Acidity!

He next, goes into the disquisition, whether these Waters be *Acid* or *Acaline*? *Vitriolic*? or not? And whether the *Vitriol* be fixed or *Volatil*? You, who know how this Subject should be treated, and how it is touched upon in the *ESSAY*, cannot think, I can pay the expected homage to Doctor *Limbourg's* Authority.

But, our Author sets out in Quest of other Salts than the *Acid* and *Alkali*, in the Waters; to wit, *Glauber's Salt*, *Sea Salt*, *Alum* and a *volatil Alkali*; none of which, he proves, better than he can the Existence of *Alum* in the *Tonnelet*, which he does not so strongly insist on, now that that Spring is brought within the District, and Subject to the Magistrates, of *Spa*.

But, as for the *volatil Alkali*, that the Doctor extracts from the *Oebre* of the Waters, by Distillation; though every proof he gives of an *Alkali*, as well indicates *Iron*, as does the *false* kind of *Extrakt*, which he calls *Alcaline*. This, I examined, and found none other than *Iron*, or the *Oebre* of the Waters, dissolved by Tartar. But, as it turned *Sirup of Violets Green*, the Doctor pronounces it an *Acali*! Other-

otherwise, perhaps, he might have thought it no despicable auxiliary to the Waters, in certain cold, Leucophlegmatic Cases. See *Traité*, p. 105, to 107.

In his sixth Chapter, he proceeds to shew the *great Difference* of the Waters of *Spa*, and the *difficulty of determining in the Choice* of Waters, whose physical Effects and Operations on human Bodies are so *very different*.—Here sure, is strict regard to *Truth, Clearness* and *Perspicuity*, and *no Craft*.—Compare this to the directly contrary Notions, set down in the *Recueil*, and reconcile our Author to himself, if you can.

He First, proceeds to shew the Difference of the Waters, by the sensible Qualities. In Taste, upon comparison, he makes the *Tonnelet*, *sharp Austere* and *as it were aluminous* and *vitriolic*.

Then, he proceeds to shew the Difference and Proportions of their respective Impregnations, but upon his own sandy Foundation. And, in all the Trials of this Kind, he loses Sight of his chymical *Glauber's Salt*.

His seventh Chapter gives a Sketch of the Doctor's Philosophy, in accounting for the Production of mineral Waters in general, those of *Spa* in particular. This, he ascribes to a kind of *subterranean Destillation, Solution*, and *Filtration*, not knowing that nature's Processes are all the most simple and efficacious. The *Essay* on Waters, by the Authority, or with the Concurrence of the best modern Philosophers, shews how such an Impregnation is produced by the decomposition of *Pyrites*, and the Concourse of Water. By this, I hope, the Doctor will be convinced, that I have read his *Treatise*, and I must suppose, by now, he must wish, he had not provoked me to take up the rejected Book again.

He will however permit me to take my Leave of him here: He does not, I hope, expect, I should follow him through his second Part, which, he begins with a curious course of Physiology, both of the human Body and Soul. His Sketch of Pathology,

logy, in the second Chapter, may also rest in Peace. Nor do his Therapeutics deserve much more Attention. Here, he attempts to explain the Nature and Qualities of *his Elements* or Principles of the Waters, of which he is pleased to make, *not his sulphureous Spirit*, but *actual Brimstone*, one. And though he calls the Earth of the Waters, *Selenitous*; that is, a stoney Matter, insoluble, not onely in Water. but in all the known Acids, he sets it down with the *Alkali*, as an *Absorbent* or *Anti-acid*, p. 147, 151. Thus, the Doctor lays a Foundation for *rational Practice*! Sure *his Observations* on the Effects of the Waters must be well stated; when he proves himself so thoroughly acquainted with the Nature of the Composition, and it's component Parts respectively!

Though, our Author, in laying down, what he calls, *his Analysis*, lumps all the Waters together; and when he comes to Particulars, makes no essential Difference appear between any one of the Waters and another; he endeavors to make them all so essentially different from each other, that he positively asserts, p. 157, *that one Source is not onely more or less effectual in certain Cases, but that one is dangerous in Disorders, in which another is infallibly very serviceable*. Reconcile this by any other Rules, than the *affected Mystery and Obscurity of the Craft*, if you can. In the *Recueil*, you see, the Doctor asserts just the contrary, when he confesses *these Waters differ by invisible Shades, all being impregnated upon the same Principles, with similar Ingredients, but in different Proportions*. Yet, he goes on, *Trailé*, p. 157, to 160, to point out their different Uses and Virtues, without proving that he possesses a single Qualification of the many requisite for the Task. In all these Distinctions, it must be confessed, he succedes as well, as when he tells us elsewhere, that the *Tonnelet* is *sharp and austere, or aluminous and vitriolic*; and p. 159, asserts *it to be fit onely to minister to the Delights and to the Pleasures of Strangers, who find this Water, mixed*

with their Wines, very agreeable. Is not the Doctor a Man of exquisite Taste? Is he not the first, who found a *sharp, austere, aluminous, and vitriolic Taste*, grateful to the Palate? Must it be owing to these remarkably and universally offensive Tastes, that the *Tonnelet* becomes the neighbouring Peasants', as well as the Strangers', pleasantest Beverage? Or that the Doctor himself prefers it, p. 179? Will you have Patience to pursue this incoherent Writer further? After this, what Attention is to be payed the following Directions, for *mixing the Waters of one or two Springs; for beginning with a Glass or two of the Pou-bon, to prepare the Stomach and Bowels for the other Water, which may be indicated, and to prevent this proving otherwise disagreeable or offensive?*—Can these answer any Purpose, but that of *Quackery*? Can such Writings be calculated for any other Purpose than to catch the *Boblins*?

Of a Piece with this, is the next, the sixth Chapter; in which, he endeavors to shew the Difficulty of choosing among *Waters so different*, that which is best appropriated to any Disorder. All these Cautions are to shew the Necessity of consulting *the Oracle of the Mysteries*, upon the Spot. And this is the only Purpose, they are calculated to answer. I shall make no further Animadversion on this Practice. If what he calls his *Theory* appears thus pitiful and despicable, it is easy to conceive the Footing, on which his Practice must stand.

I hope the Doctor is now convinced, that I have read his Book, and that I have passed over his Practice with a very light Foot.

I am now come to his *Observations*, or what he chooses to call *his experimental Practice*, founded upon what he calls his *rational Practice*, of which we have given a cursory View.

Of this Collection, of no less than fifty Observations or Cases, I will venture to say, that though there be but a few of them, which can be called
Doctor

Doctor *Limbourg's*, who, though he condemns it with Acrimony in others, yet commenced a *Practitioner*, ay, and an *Observer*, even a *Teacher*, before he had much Experience; there is not any of them that can serve any better Purpose than a common *Quack-bill*, or the Inscription on a *Sign-post*: They were all written to captivate the Vulgar, not to inform distant Physicians of the Effects of a regular Course of Practice in these Waters.

To answer the last, which to the Public can be the onely desirable Purpose, I am in your Judgment, whether it should not be regularly done in the way of a Diary, in the following, or some such open, plane, and simple Manner.

1. The Patient's Sex, Age, Frame, Habit, and Temperament of Body and Mind, set down.

2. The History, Signs, Symptoms, and Changes, or Rise and Progress of the Disorder, to the present State, should be clearly, fairly, succinctly and accurately given; with an Account of the Parent's Health, if the Patient's Disorder be deducible from the Parentage.

3. The Causes of the Disorders, the remote and proximate, should be fairly pointed out.

4. From these, the curative Indications, and the Therapeutic Course, should be pointed out, in particular Terms; then,

5. The Prognostics, judiciously made.

6. The regulation of the Non-Naturals should be layed down with Precision.

7. The Preparation for the Course of these Waters, first shewn to be indicated, should be declared expressly and clearly; specifying the Quantity and Quality of the Evacuations; the Alteratives or Baths, used, with the several visible Changes, or good or bad Effects, attending each Mode of Preparation.

8. After due Preparation, the particular Water, or Waters directed or used, the Quantity and Times of taking them, the sensible Effects, whether bad or good

good, daily, or as often as they happen to be produced, set down, minutely and circumstantially.

9. From those, it would appear, if any, and what Medicines were necessary to be interposed. The Kind, Composition, Form and Dose of each Medicine should be fully and precisely declared, with the Reason for continuing, omitting or changing the Course, setting down minutely each Alteration and their Effects, whether bad or good.

You know, Sir, that it is upon such a Plan as this, alone, that practical Observations upon the Uses of any Medicines, especially on those of these and the like Mineral Waters, can be made and recorded, so as to prove useful to any one, but their Author. Upon such a Plan, have all the regular Practitioners and Recorders of Consultations or Medical Observations, proceeded. And from such alone, can the public draw useful Information.

All this, our Author must confess to be just and true. Yet, in every Observation he produces, in his *Traité*, or in his *Racueil*, he quits Sight of these necessary Rules, or steers a contrary Course, to serve Purposes best known to himself.

Upon this Consideration, I should have thought this Author had Sense and Modesty enough to wish that his Writings might fall into no Physician's Hands, had I not found, upon this last Revise of them, which he has occasioned, that he, in effect, challenged me to read his *Treatise*. Now, he has got me to read it, I should be glad to know how his other Purposes are answered.

Upon the whole, this now appears very plane, that the Doctor is hardly arrogant enough to presume, that he is capable of teaching all the Physicians of the Age, the Rules and Principles of Practice; I will venture to answer for him, that he means no more than to make the *Boblins* believe, that he is the most capable of instructing other Physicians, and of course, of practising with the greatest Success at Spa. This much, I think,

I think, may be collected from those Lucubrations of our Author. Thus far, to shew that I have read *Son Traité*. And now to return :

But happily, the Doctor, before he concludes his *Recueil*, regains his natural placid Disposition. Whether he may or may not make up his Quarrel, with Lucas, Time and the next Edition of his great Work will shew. It is however certain, that he has *shaken Hands* and made up the Quarrel with the *Tonnelet* ; yea, he has with great Courtesy, even *retracted* all that he has sayed against it : Though it had *every bad*, and *no good Quality*, before ; though it *caused Coldness, Flatulency, Weight, Oppression* ; though it gave a *swelled Head*, at one Time, and caused *excessive bleeding of the Piles*, to the same Person, at another ; it is now found to *possess extraordinary good Qualities* ; the former Reflections were onely angry Words, extorted by Lucas ; *Let no Body imagine*, the Doctor *meant to cast any Blame upon this excellent Water, or to impute any bad Qualities to it*. He has asserted, as well as Lucas, and even before he did, *that all the Waters of Spa were impregnated with the same Principles, but in different Proportions*. The Doctor onely took it ill for a While, that Lucas should *set up the Tonneler*, above the Doctor's *Panchymagogon*, his *Natural Æther*, the *Geronster* ; and in short, he onely meant to try what Lucas, not the Water, was made of. This, I take to be the Substance of the first Part of § 40. The conclusion is much of a Piece. In spite to his Struggles to depretiate the *Tonnelet Water*, he is forced again to declare, that all the Waters, of all the Sources of Spa, differ but by such *imperceptible Shades*, that it is hard to determine in the Variety, the Choice ; and concludes the whole, with Declarations very different from those with which he set out, Declarations of his Indifference and Impartiality. — In what then does the Doctor and Lucas disagree ? Are all *Errors, Blunders, Mistakes, Abuses, &c.* of Lucas done away, or reconciled to the angry Critic ? Why does the
Doctor

Doctor so extremely differ from Lucas, at setting out, yet fall in with his Sentiments, by the Conclusion ? — The Doctor was too modest to expect any Body should read so far. He will probably alter it in his next Edition — But, he is very solicitous to acquit himself of Prepossession and Partiality. If it be indifferent to Doctor *Limbourg* at Spa, which Water has the Preference ; must it not be as much so to Doctor Lucas in Dublin, unless as far as Truth, the public Good, and the Honor of the Healing Art are concerned ?

Thus you see this Gentleman has wantonly fallen foul of a Man, who could never have given him any Offence, purely to gratify his Itch for Scribbling, or rather to furnish himself with Matter for another *Quack-Bill*, at my Expence.

You see that in all this Controversy, he has not a Particule of Truth, Reason, real Modesty or Common Sense of his Side. You see the whole Tenor of his Conduct runs countre to those ; that his whole *Collection* is a Budget of incoherent Stuff, false Positions and Contradictions. His *Traité* and his *Recueil* are every where at Variance with Truth and Common Reason, with each other, and each with itself ; while the Author appears consistent with himself in nothing but Inconsistency, Ignorance and Arrogance.

This might have shewn this Author, and his Works unworthy of the Notice of a Gentleman of your eminent Knowledge and Judgement ; but since you have Thought fit to stoop to take Notice of such a low, mean despicable Writer, which I am sure you submitted to, from very generous Motives ; I, who am more immediately concerned, may well interpose, and save you the further Trouble of vindicating my Character and Writings from the Malversations of this malevolent Scribler.

I suppose, I shall have tired you in the Reading, as I have tired myself in the Examination of these two insignificant Tracts, evidently calculated *ad Captum Vulgi* ;

Vulgi; that is, not with the arrogant View of teaching other Physicians, but to make the ignorant *Boblins* believe the Doctor capable of instructing all other Physicians and correcting their Works and their Practice.

As I was forced to follow my anomalous Author, I must appear disorderly, and irregular, of Course. This crude Tract cost me the most Part of three Days, in which I was confined in the Gout, and I could not since my Recovery, get Time to digest, or even to shorten it, as might be wished, or to send it to the Press, till now.

If our Author goes on with the promised Project of his *Recueil*, he may expect some Assistance from this; for, we can give him and the Public some rare Specimens of *Spa Practice*. But, for his own Sake, I hope he will spare us this Trouble.

As for this Gentleman's backbiting and slandering me, it moves me to nothing but Contempt. My Conscience tells me, that he who malignes me, does not know me. — Allowing for the common Frailties of human Nature, I will be bold to say, that my Conduct in Life is blameless, towards God and Man. Therefore, illfounded Calumny can never discompose me.

As for Politics, of these, I take the Doctor to be no better a Judge, than the Blind of Colors, or than he appears to be of Physic and Chemistry. His Abuse of me, as a Citizen, is the same which the rest of his Class and Character have thrown out at Bath and elsewhere. These you see answered in the Preface to the *ESSAY*. The Dedication of this, to the *PRINCE*, contains a Sketch of my Political Creed. The Cause of my Exile, you will find there; but, for my further Justification with you, I send you the principal Tracts, for which I had the Honor to be censured and exiled. I do not disavow the Principles; I dare to suffer another Exile, or even Death itself, in

support of them. Thank God! I have lived to see a Prince on the Throne, who stopped the Current of that shameful, illicit Persecution, and revived the drooping Nation, by calling a new Parlement. My Fellow Citizens have persisted in their Sentiments, and elected me one of the Members to represent the Metropolis, in this Parlement, where my Conduct neither has, nor ever shall give any good Man Offence.

Men born in enslaved Countries, whose Necks have been early bent to the Yoke of despotic Rule, can never pretend to judge of the Political Conduct of Men born and bred in an higher Sphere, whose peculiar, glorious Inheritance is LIBERTY, that best Gift of Heaven. An usurping Tyrant in England, may expect a BRUTUS in every FREE BRITON; while each subscribes to their great Martyred Patriot's * Motto,

*Manus haec inimica Tyrannis,
Ense petit placidam sub libertate Quietem.*

To this, Dr. Limbourg will hardly dare to subscribe. Let him then be a silent.

The Approbation of my Conduct by the Sensible and Good, is the only Object of mine Ambition. This, with Peace in mine own Bosom, I have in mine own Power to secure. The Hatred of Fools and Knaves must follow; both spring from the same Source. I may therefore be indulged in exulting at the Share I enjoy of both.

I hope you will indulge my Pride in addressing this, necessarily, irregular Performance to a Name so respectable as yours. But, as you have already generously imbarqued in my Troubles, and honored my Works, by thinking Part of them worthy of being translated into French by your own Hand, this Vindication naturally claims your Protection.

Ingratitude

* SIDNEY.

Ingratitude makes no Part of the Catalogue of my Vices : I long for Means and Opportunity of expressing my Obligations to your distinguished Judgement and Generosity. In the mean Time, I must content myself with the Sentiments of our MILTON ;

—— ——— the grateful Mind
By owing owes not, but still pays, at once
Indebted and discharged. ——— ——— ———

You will then, Sir, pardon my Vanity, when I thus publicly plead my grateful Sense of the Obligations, you have conferred on me, and give this public Assurance of the profound Respect and Gratitude, with which I have the Honor of declaring myself,

S I R,

Your most faithful,

DUBLIN,
Nov. 10, 1765.

and most obliged,

humble Servant,

C. LUCAS.

TYPOGRAPHICAL ERRORS.

- Page 17, Line last, for *principle*, read *principal*.
19, Line 32, for *principle* read *principal*.
34, Line 8, after *as*, *in*.

I beg to inform you that no Part of the Catalogue of my
Vases is sent for Manus and Opportunity of express
the my Catalogue to your distinguished Judgment
and Generosity. In the mean Time, I have engaged
to sell with the same, a few of my Vases.



You will then, I am sure, my Vases, which I
have publicly placed in your Catalogue of the Objects
of Art, you have collected on the spot, and give the
public a view of the present Art and State
of the World, which I have the honor of declaring my
self.

Yours most faithful

and most obliged

Friend

C. LUCAS.

THE BRITISH MUSEUM
LONDON
1756

